

ABSTRACT

A low temperature cofired ceramic-metal (LTCC-M) integrated circulator comprises at least one ferrite disk situated in a magnetic field. The magnetic field is
5 created by a magnet and directed by a ferrous base plate acting as a magnetic return path. A conductor junction having 3 ports couples radio frequency energy to the circulator. And, a plurality of LTCC-M insulating layers position the magnet, the ferrite disk, and supports the conductor junction. A method of making an LTCC-M circulator comprises, providing one or more green sheets of insulating ceramic, at least one magnet and at least
10 one ferrous base plate, a contact junction, and alternately stacking the sheets so that there is at least one insulating ceramic sheet between the magnet and the ferrite disk. The stack is then co-fired to form an integrated LTCC-M circulator device.